AMENDMENTS TO THE CLAIMS

Please amend claims 1 and 9 and add new claims 38-47. The following listing of claims will replace all prior versions and listings of claims in the application.

1. **(Currently amended)** An optical ~~multiplexer/demultiplexer~~ system, comprising:

an optical filter;

a first optical isolator in optical communication with one side of the optical filter;

a second optical isolator in optical communication with an opposite side of the optical filter; and

a light disposer in optical communication with the first optical isolator and arranged such that the light disposer and first optical isolator collectively define a portion of an optical path associated with a signal from the optical filter.

2. **(Original)** The system of claim 1, wherein the optical filter comprises an interference optical filter.

3. **(Original)** The system of claim 1, wherein the first and second optical isolators comprise a polarizing beam splitter and a quarter-wave plate.

4. **(Original)** The system of claim 1, wherein the first and second optical isolators comprise a device that imparts a non-normal incident angle to input light beams.

5. **(Original)** The system of claim 1, wherein the light disposer comprises a baffle or a conveyance.

6. **(Original)** The system of claim 5, wherein the conveyance is selected from the group consisting of mirrors, lenses, fibers, waveguides, rhombs, total internal reflectors, and combinations thereof.

7. **(Original)** The system of claim 1, wherein the system is configured as a multiplexer.

8. **(Original)** The system of claim 1, wherein the system is configured as a demultiplexer.

9. **(Currently amended)** An optical ~~multiplexer/demultiplexer~~ system, comprising:

~~filter~~ a means for ~~selectively transmitting~~ filtering one or more wavelengths of optical energy;

a first means for isolating one or more optical signal channels;

a second means for isolating one or more optical signal channels; and

~~disposal~~ a means for ~~collecting~~ disposing of one or more optical signal channels received from the means for filtering by way of the first means for isolating

~~wherein the first and second means for isolating are in optical communication with the filter means~~.

10. **(Original)** The system of claim 9, wherein the system is configured as a multiplexer.

11. **(Original)** The system of claim 9, wherein the system is configured as a demultiplexer.

12. **(Withdrawn)** A method of multiplexing optical signals, comprising:

introducing even-parity optical signal channels to a first side of an optical filter through a first optical isolator;

transmitting one or more of the even-parity optical signal channels through the optical filter;

introducing odd-parity optical signal channels to an opposite side of the optical filter through a second optical isolator;

reflecting one or more of the odd-parity optical signal channels from the optical filter back to the second optical isolator; and

combining the reflected odd-parity optical signal channels with the transmitted even-parity optical signal channels at a multiplexed output.

13. **(Withdrawn)** An optical multiplexer/demultiplexer system, comprising:

a first optical filter;

a first optical isolator in optical communication with the first optical filter;

a second optical isolator in optical communication with the first optical isolator;

a second optical filter in optical communication with the second optical isolator; and

a light disposer in optical communication with the second optical isolator.

14. **(Withdrawn)** The system of claim 13, wherein the first and second optical filters comprise interference filters.

15. **(Withdrawn)** The system of claim 13, wherein the first and second optical isolators comprise a polarizing beam splitter and a quarter-wave plate.

16. **(Withdrawn)** The system of claim 13, wherein the first and second optical isolators comprise a device that imparts a non-normal incident angle to input light beams.

17. **(Withdrawn)** The system of claim 13, wherein the light disposer comprises a baffle or a conveyance.

18. **(Withdrawn)** The system of claim 13, wherein the system is configured as a multiplexer.

19. **(Withdrawn)** The system of claim 13, wherein the system is configured as a demultiplexer.

20. **(Withdrawn)** A method of demultiplexing optical signals, comprising:

introducing multiplexed optical signals to a first optical filter through a first optical isolator;

transmitting one or more even-parity optical signal channels through the first optical filter;

reflecting one or more odd-parity optical signal channels from the first optical filter back to the first optical isolator;

directing the odd-parity optical signal channels to a second optical filter through a second optical isolator; and

transmitting the odd-parity optical signal channels through the second optical filter.

21. **(Withdrawn)** The method of claim 20, wherein any optical energy reflected by the second optical filter is directed by the second optical isolator into a light disposer.

22. **(Withdrawn)** A method of multiplexing or demultiplexing optical signals, comprising:

introducing optical signals into a plurality of optical filters arranged in a tree structure, the filters having nearly identical free spectral ranges but being shifted in frequency.

23. **(Withdrawn)** A method of demultiplexing optical signals, comprising:

introducing multiplexed optical signals to a first optical filter that separates the optical signals into a high frequency signal region and a low frequency signal region;

directing the high frequency signal region to a second optical filter that separates the high frequency signal region into higher frequency and lower frequency optical components; and

directing the low frequency signal region to a third optical filter that separates the low frequency signal region into higher frequency and lower frequency optical components.

24. **(Withdrawn)** The method of claim 23, wherein the optical filters are half-band filters.

25. **(Withdrawn)** The method of claim 23, wherein the optical filters are part of a tree structure.

26. **(Withdrawn)** A method of multiplexing optical signals, comprising:

introducing a first set of high frequency and low frequency optical components to a first optical filter that combines the optical components into a lower frequency signal region;

introducing a second set of high frequency and low frequency optical components to a second optical filter that combines the second set of optical components into a higher frequency signal region; and

directing the lower frequency signal region and the higher frequency signal region to a third optical filter that combines the signal regions into a multiplexed optical signal.

27. **(Withdrawn)** The method of claim 26, wherein the optical filters are half-band filters.

28. **(Withdrawn)** The method of claim 26, wherein the optical filters are part of a tree structure.

29. **(Withdrawn)** An optical multiplexer/demultiplexer system, comprising:

a first boundary filter;

a first transitional optical filter in optical communication with the first boundary filter;

a second boundary filter in optical communication with the first transitional optical filter;

a second transitional optical filter in optical communication with the second boundary filter; and

a third boundary filter in optical communication with the first transitional optical filter.

30. **(Withdrawn)** The optical multiplexer/demultiplexer system of claim 29, wherein the boundary filters comprise narrow bandpass optical filters.

31. **(Withdrawn)** The optical multiplexer/demultiplexer system of claim 29, wherein the transitional optical filters comprise one or more half-band filters.

32. **(Withdrawn)** A method of demultiplexing optical signals, comprising:

introducing multiplexed optical channels to one or more boundary filters that remove channels that fall within a transition region between full transmission and full reflection of a transitional optical filter; and

directing the remaining multiplexed optical channels to one or more transitional optical filters that divide the optical channels into higher frequency and lower frequency signal regions.

33. **(Withdrawn)** The method of claim 32, wherein the boundary filters comprise narrow bandpass optical filters.

34. **(Withdrawn)** The method of claim 32, wherein the transitional optical filters comprise one or more half-band filters.

35. **(Withdrawn)** A method of multiplexing optical signals, comprising:

introducing higher frequency and lower frequency optical signals to one or more transitional optical filters that combine the optical signals; and

introducing optical channels that fall within a transition region between full transmission and full reflection of the transitional optical filters to one or more boundary filters that combine the optical channels with the optical signals from the transitional optical filters into a multiplexed optical signal.

36. **(Withdrawn)** The method of claim 35, wherein the boundary filters comprise narrow bandpass optical filters.

37. **(Withdrawn)** The method of claim 35, wherein the transitional optical filters comprise one or more half-band filters.

38. **(New)** The system of claim 9, wherein the means for filtering is configured to:

receive even-parity optical signal channels through the first means for isolating; and

receive odd-parity optical signal channels through the second means for isolating.

39. **(New)** The system of claim 38, wherein the means for filtering is further configured to:

transmit one or more of the even-parity optical signal channels to the second means for isolating; and

reflect one or more of the odd-parity optical signal channels back to the second means for isolating.

40. **(New)** The system of claim 38, wherein the means for filtering is further configured to:

reflect one or more of the even-parity optical signal channels to the means for disposing through the first means for isolating; and

transmit one or more of the odd-parity optical signal channels to the means for disposing through the first means for isolating.

41. **(New)** The optical system of claim 1, wherein the light disposer and first optical isolator are arranged such that a signal directed from the optical filter to the light disposer must pass through the first optical isolator.

42. **(New)** An optical multiplexer system comprising:

a first optical isolator;

a second optical isolator;

a light disposer; and

an optical filter configured to:

receive even-parity and odd-parity optical channels from the first and second optical isolators, respectively;

transmit odd-parity optical energy and reflect even-parity optical energy to the light disposer by way of the first optical isolator; and

transmit even-parity optical energy and reflect odd-parity optical energy to the second optical isolator.

43. **(New)** The system of claim 42, wherein the optical filter comprises an interference optical filter.

44. **(New)** The system of claim 42, wherein each of the first and second optical isolators comprises a device that is configured to impart a non-normal incident angle to input light beams.

45. **(New)** The system of claim 42, wherein the light disposer comprises a baffle or a conveyance.

46. **(New)** The system of claim 45, wherein the conveyance comprises a mirror, lens, fiber, waveguide, rhomb, total internal reflector, or any combination thereof.

47. **(New)** The system of claim 42, wherein one of the optical isolators comprises:

a polarizing beam splitter; and

a quarter wave plate.